

CLAIMS AMENDMENTS

Claim 1 (currently amended): A chemical compound, comprising the general formula

$L\{YX_m\}_n$ wherein:

$[[X]] Y$ is selected from the Group 13 elements consisting of boron, aluminum, gallium, indium, and tellurium;

$[[Y]] X$ is selected from the halide group consisting of fluorine, chlorine, bromine, iodine, and astatine;

L is a chelating ligand containing at least one binding atom contacting the Group 13 element, the atom being selected from the group consisting of C, N, O, and S; and

m and n are integers having a value of at least 1.

Claim 2 (currently amended): A chemical compound, comprising the general formula

$L\{YX_m\}_n$ wherein:

L is a Schiff base-containing ligand;

$[[X]] Y$ is selected from the Group 13 elements consisting of boron, aluminum, gallium, indium, and tellurium;

$[[Y]] X$ is selected from the halide group consisting of fluorine, chlorine, bromine, iodine, and astatine; and

m and n are integers having a value of at least 1.

Claim 3 (original): The chemical compound of claim 2, wherein L is a salen ligand.

Claim 4 (original): The chemical compound of claim 2, wherein L is a bidentate ligand.

Claim 5 (original): The chemical compound of claim 2, wherein L is a quadridentate ligand.

Claim 6 (original): The chemical compound of claim 3, wherein L is selected from the group consisting of Salen ('Bu), Salpen ('Bu), Salben ('Bu), and Salhen ('Bu).

Claim 7 (original): The chemical compound of claim 2, wherein Y is boron or aluminum.

Claim 8 (original): The chemical compound of claim 2, wherein X is chlorine, bromine, or iodine.

Claim 9 (original): The chemical compound of claim 2, wherein m and n are 2.

Claim 10 (currently amended): A method for dealkylation of a phosphate ester or an

ether, comprising contacting the phosphate ester or ether with a compound comprising the general formula $L\{YX_m\}_n$ wherein:

L is a Schiff base-containing ligand;

[[X]] Y is selected from the group consisting of boron, aluminum, gallium, indium, and tellurium;

[[Y]] X is selected from the halide group consisting of fluorine, chlorine, bromine, iodine, and astatine; and

m and n are integers having a value of at least 1.

Claim 11 (original): The method of claim 10, wherein L is a salen ligand.

Claim 12 (original): The method of claim 10, wherein L is a bidentate ligand.

Claim 13 (original): The method of claim 10, wherein L is a quadridentate ligand.

Claim 14 (original): The method of claim 10, wherein L is selected from the group consisting of Salen (^tBu), Salpen (^tBu), Salben (^tBu), and Salhen (^tBu).

Claim 15 (original): The method of claim 10, wherein Y is boron or aluminum.

Claim 16 (original): The method of claim 10, wherein X is chlorine, bromine, or iodine.

Claim 17 (original): The method of claim 12, wherein m and n are 2.

Claim 18 (original): A catalytic method for dealkylation of a phosphate ester or an ether, comprising contacting the phosphate ester or ether with the compound of claim 2 in the presence of BBr_3 .

Claim 19 (original): The method of claim 18, wherein the phosphate ester or ether and BBr_3 are added in equimolar amounts.

Claim 20 (original): The method of claim 18, wherein the dealkylation is conducted at ambient temperature.

Claim 21 (currently amended): A catalytic method for dealkylation of a phosphate ester or an ether, comprising contacting the phosphate ester or ether with a compound comprising the general formula $\text{L}\{\text{YX}_m\}_n$ wherein:

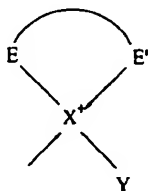
[[X]] Y is selected from the Group 13 elements consisting of boron, aluminum, gallium, indium, and tellurium;

[[Y]] \underline{X} is selected from the halide group consisting of fluorine, chlorine, bromine, iodine, and astatine;

L is a chelating ligand containing at least two molecules E and E' contacting the Group 13 element, the molecules E and E' being selected from the group consisting of C, N, O, and S; and

m and n are integers having a value of at least 1.

Claim 22 (original): The method of claim 21, wherein the compound generates a cationic intermediate upon contacting the phosphate ester or ether, the cationic intermediate having the general formula:



Claim 23 (original): The method of claim 21, wherein L is a Schiff base-containing ligand.

Claim 24 (original): The method of claim 21, wherein L is a salen ligand.

Claim 25 (original): The method of claim 24, wherein L is a bidentate ligand.

Claim 26 (original): The method of claim 24, wherein L is a quadridentate ligand.

Claim 27 (original): The method of claim 24, wherein L is selected from the group consisting of Salen (^tBu), Salpen (^tBu), Salben (^tBu), and Salhen (^tBu).

Claim 28 (original): The method of claim 21, wherein Y is boron or aluminum.

Claim 29 (original): The method of claim 21, wherein X is chlorine, bromine, or iodine.

Claim 30 (original): The method of claim 21, wherein m and n are 2.

Claim 32 (original): The method of claim 21, wherein the reaction is conducted in the presence of BBr₃.

Claim 33 (original): The method of claim 32, wherein the phosphate ester or ether and BBr₃ are added in equimolar amounts.

Claim 34 (original): The method of claim 21, wherein the dealkylation is conducted at ambient temperature.